

SB 743.

VMT Decisions for Lead Agencies

**VMT Decisions to Align Measurement of
Transportation Impacts with Sustainability Goals**

Daniel Rubins, PE

Outline.

- 1. Change**
- 2. Methods**
- 3. Thresholds**
- 4. Mitigation**
- 5. Involvement**

Change NEW LAWS

SB 743

AB 417

AB 2245

SB 226

AB 1358

SB 375

SB 97

AB 32

**+10 California Climate
change Executive Orders
since 2004**

Change SB 743 LEGISLATIVE INTENT

(1) Ensure that the environmental impacts of traffic, such as noise, air pollution, and safety concerns, continue to be properly addressed and mitigated through the California Environmental Quality Act.

(2) More appropriately balance the needs of congestion management with statewide goals related to infill development, promotion of public health through active transportation, and reduction of greenhouse gas emissions.

Change

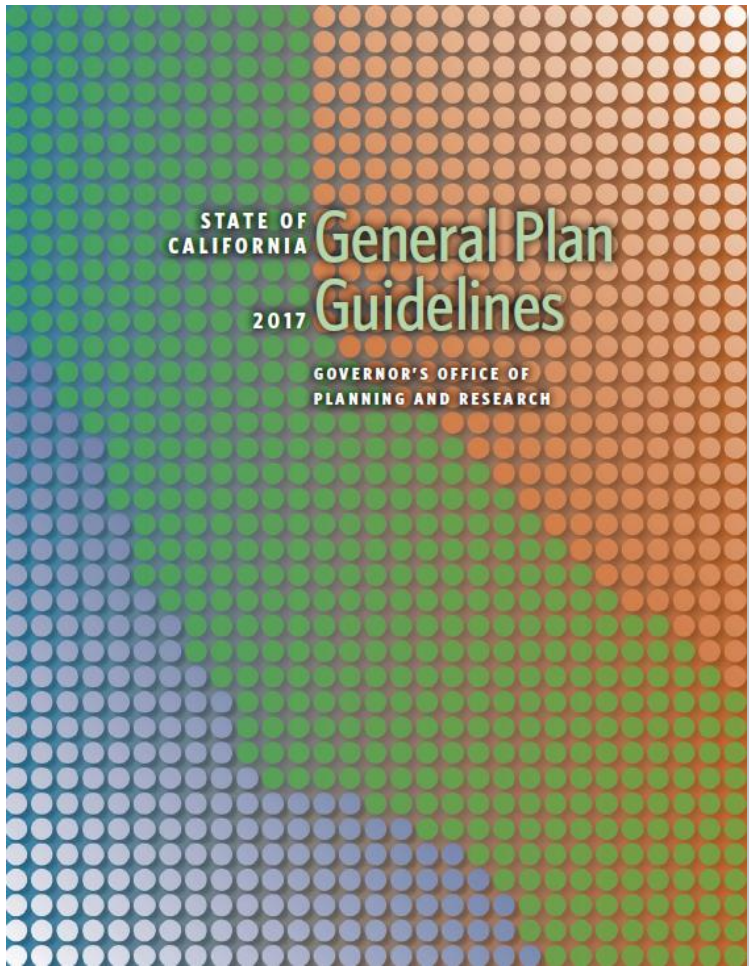
An aerial photograph of a complex multi-lane intersection with several vehicles. The word "Mobility" is superimposed in large, bold, white sans-serif font across the top half of the image.

Accessibility

What SB 743 Does Do for EIRs

- Eliminates LOS/Delay as a significance threshold
- Adds VMT as a significance threshold

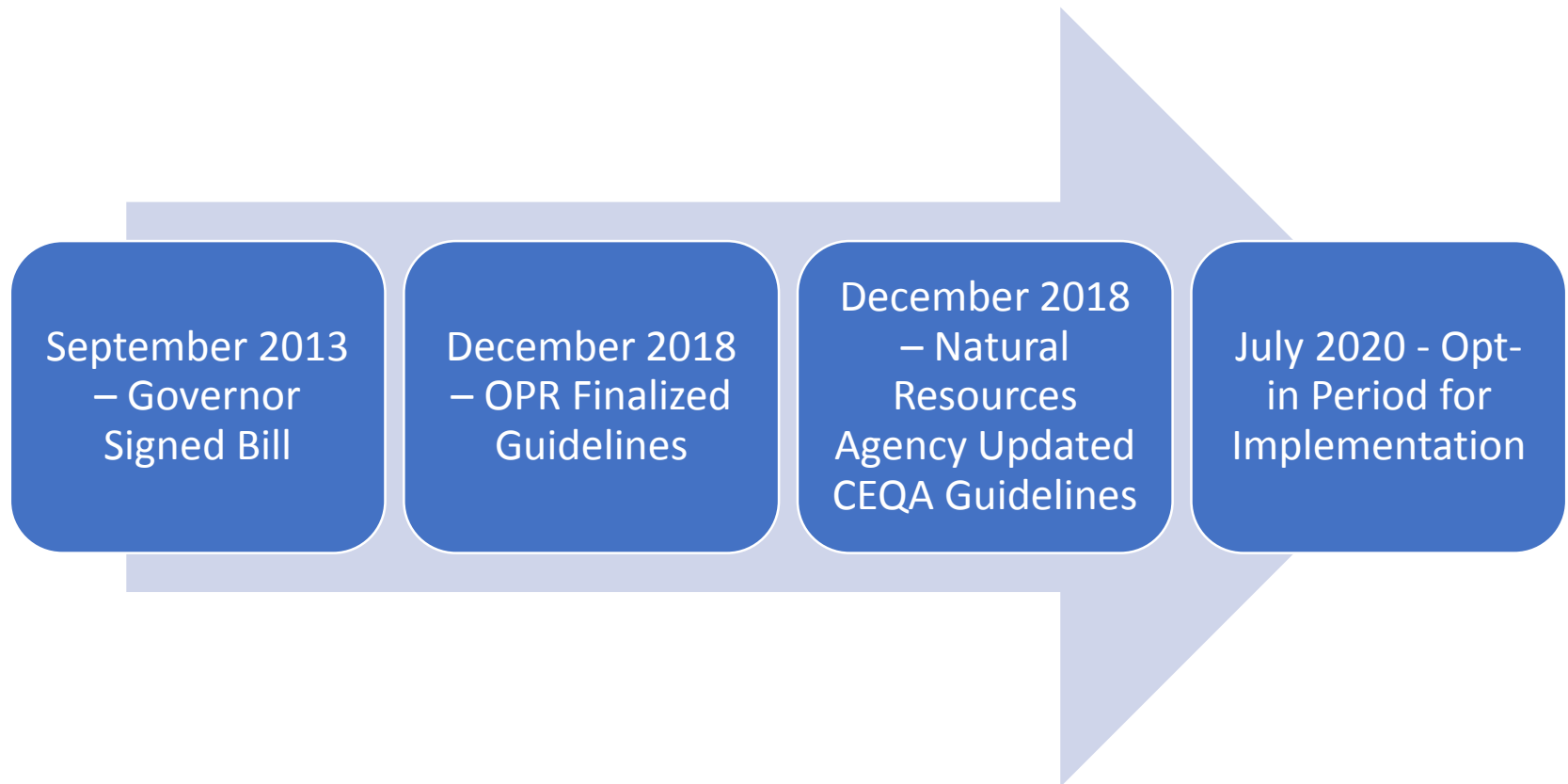
Change ■ TRANSPORTATION PLANNING



What SB 743 Does Not Do...

No change to general plans,
traffic impact fee programs,
State Constitution,
subdivision map act, etc.

Change.



Decisions.

CEQA Guidelines – Expectations for Environmental Impact Analysis

§ 15003 (f) = *fullest possible protection of the environment...*

§ 15003 (i) = *adequacy, completeness, and good-faith effort at full disclosure...*

§ 15125 (c) = *the eir must demonstrate that the significant environmental impacts of the proposed project were adequately investigated...*

§ 15144 = *an agency must use its best efforts to find out and disclose...*

§ 15151 = *sufficient analysis to allow a decision which intelligently takes account of environmental consequences...*

Decisions.

1. VMT Methods

- Model/Tool
- Screening
- VMT Accounting

2. Thresholds

- Project
- Cumulative

3. Mitigation

- Feasible Mitigation
- Limitations of TDM

TECHNICAL ADVISORY

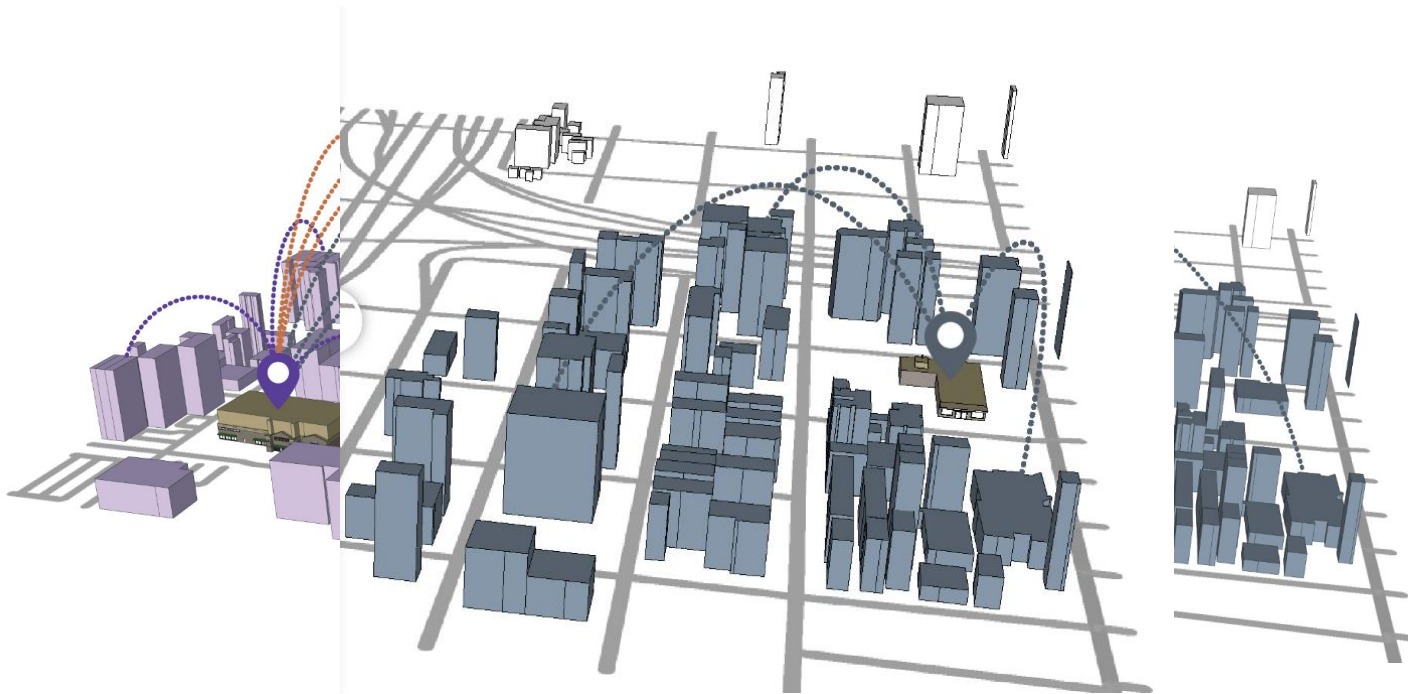
ON EVALUATING TRANSPORTATION
IMPACTS IN CEQA



December 2018

Decisions ■ WHAT IS VMT?

Project Generated VMT vs Project Effect on VMT

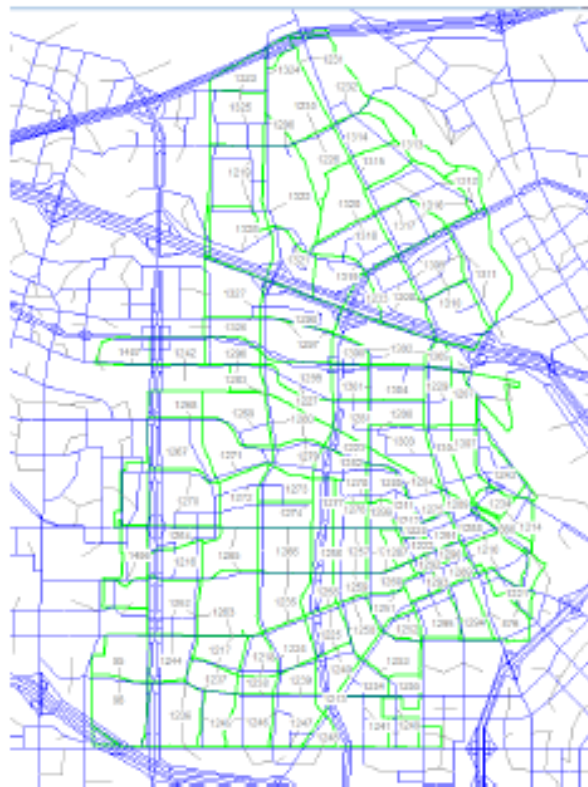


Decisions PARTIAL OR COMPLETE VMT

Vehicle Trip Type	VMT Required in Analysis			
	AQ	GHG	Energy	SB 743 Transportation
<i>Residential Project</i>				
Home-based work	✓	✓	✓	✓
Home-based other	✓	✓	✓	✓
Non-home-based	✓	✓	✓	
<i>Office Project</i>				
Home-based work	✓	✓	✓	✓
Visitor	✓	✓	✓	
Delivery	✓	✓	✓	
Maintenance/Security	✓	✓	✓	

Methods ■ MODELS

- **Regional Travel Model, Local Model, and Non-Model Accounting Method**



Methods

LAND USE SCREENING

Navigating Land Use Projects Through SB 743

FEHR & PEERS

Project Questions

Procedural Flowchart



Decision



Analytical process or procedural outcome

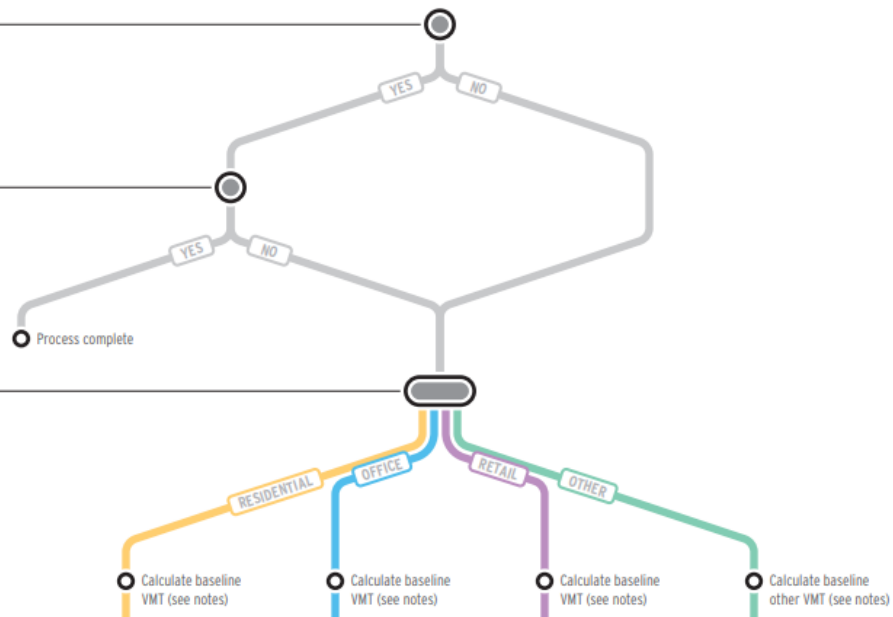
Is the project:

- In a transit priority area
- OR In a low VMT area
- OR Local serving retail less than 50,000 square feet?

Is the project:

- Floor area ratio greater than 0.75
- AND Consistent with parking requirements without oversupplying
- AND Consistent with RTP/SCS?

What is the project land use?



Methods

TRANSPORTATION SCREENING

Navigating Transportation Projects Through SB 743

FEHR & PEERS

OPR Steps

Step 1 Screening

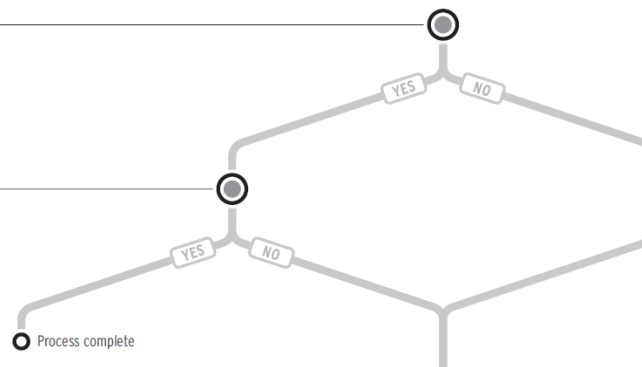
Project Questions

Is the project type:
Transit
OR Active transportation
OR One of the road project
types on page III.27 of the
OPR Technical Advisory?

Does substantial evidence
exist to support a finding that
the project will not generate
new VMT?

Procedural Flowchart

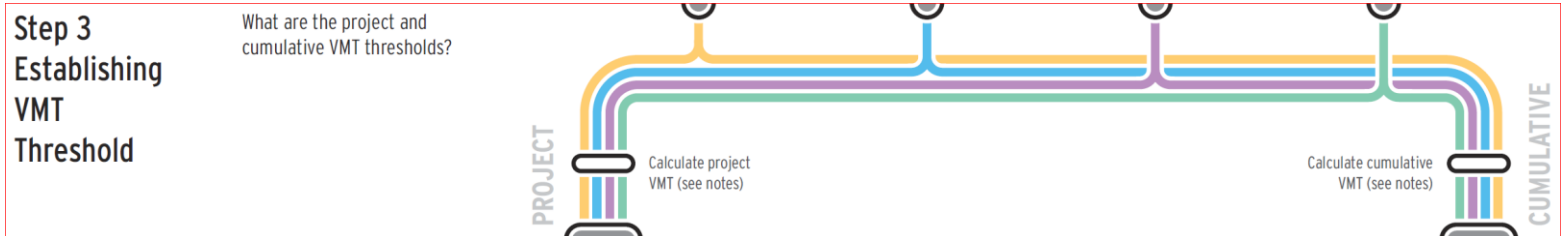
● Decision ○ Analytical process or procedural outcome



Thresholds.

Establishing VMT Threshold(s)

- Lead agency discretion
- What is acceptable vs. unacceptable VMT when viewed solely through a transportation lens?
- Multiple options depending on...
 - how VMT reduction is valued by lead agency
 - how VMT reduction is addressed in air quality, energy, and GHG impact analysis
 - court decisions



Thresholds.

Lead Agency Discretion

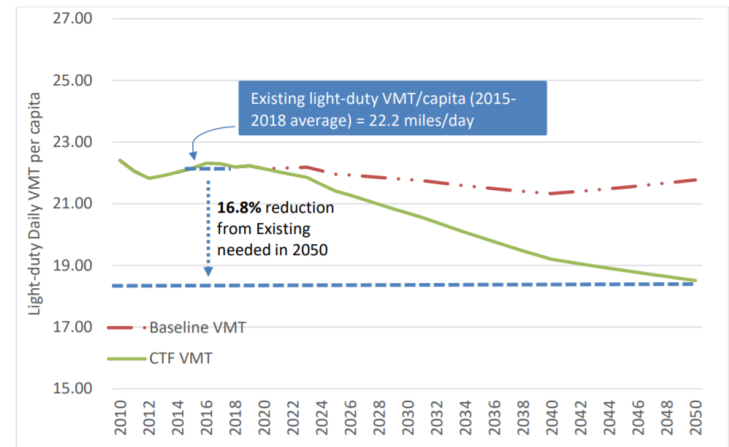
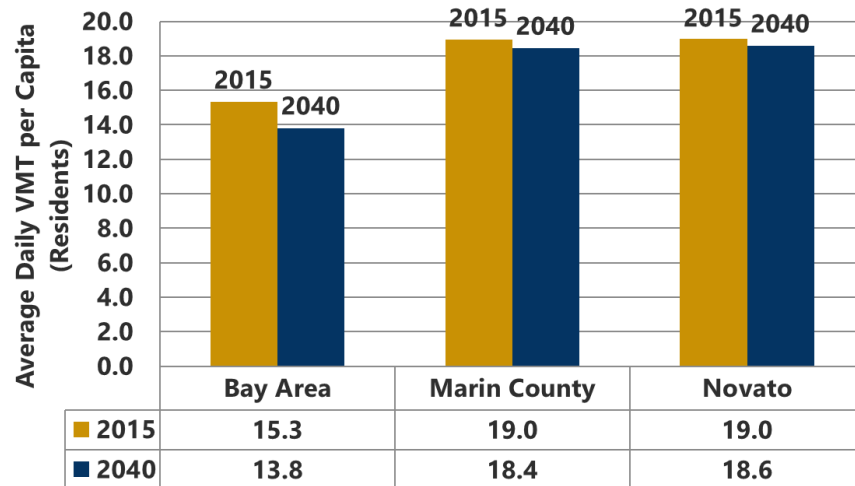
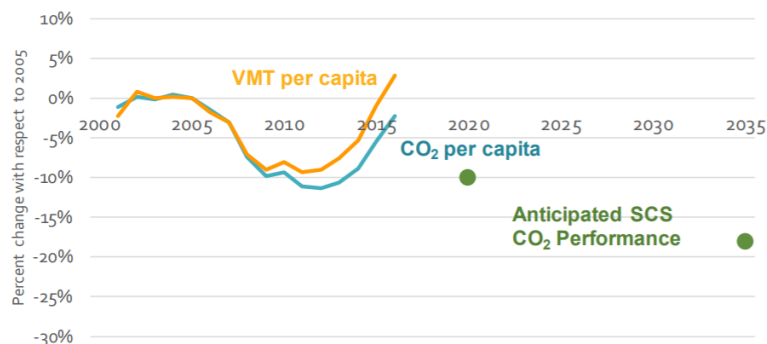


Figure 3: California Light-Duty VMT Per Capita

Thresholds.

Other Substantial Evidence

Statewide CO₂ and Vehicle Miles Traveled (VMT) Per Capita Trend with Respect to Anticipated Performance of Current SB 375 SCSs²

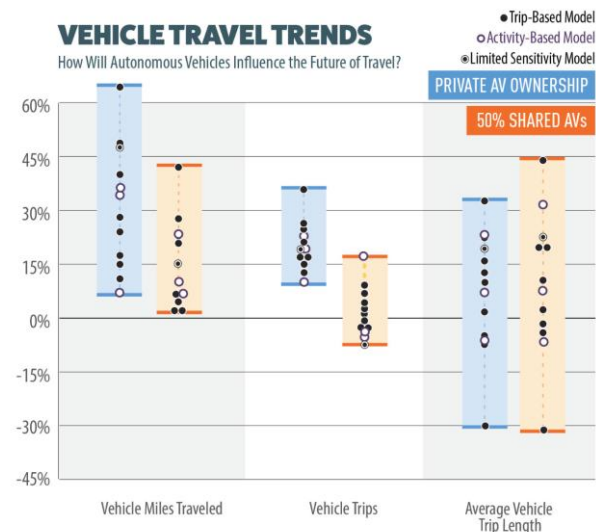


Source: CDTFA, U.S.EIA, U.S.EPA, CARB

Source: https://ww2.arb.ca.gov/sites/default/files/2018-11/Final2018Report_SB150_112618_02_Report.pdf

VEHICLE TRAVEL TRENDS

How Will Autonomous Vehicles Influence the Future of Travel?



Source: <http://www.fehrandpeers.com/autonomous-vehicle-research/>

Thresholds OPR GUIDANCE

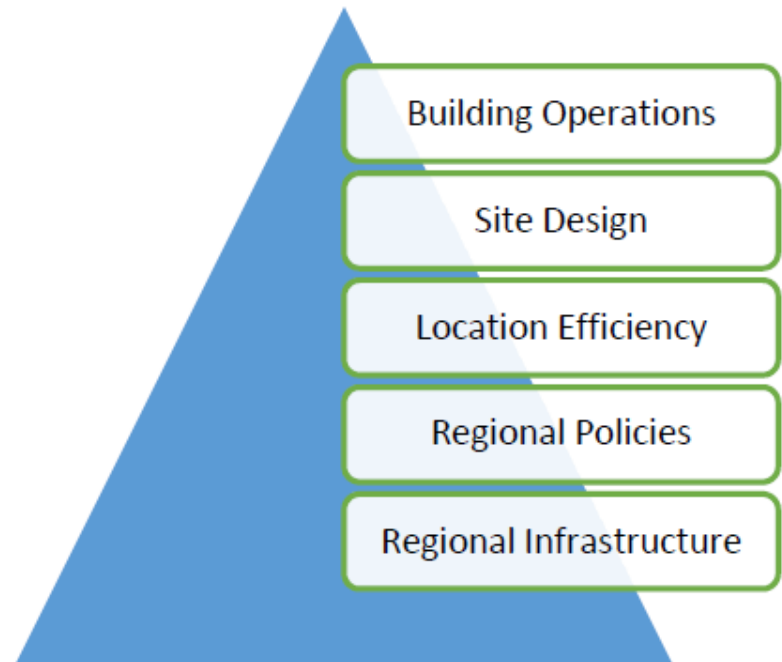
For transportation projects:

- Bicycle, pedestrian, and transit projects are presumed to not increase VMT
- Projects that expand roadway capacity are considered to have potential to cause induced demand; short-term and long-term VMT effects should be evaluated
 - Thresholds of significance not specified

Mitigation.

Types of VMT Reduction Strategies

- Built Environment
 - Is changing the project land use or transportation network feasible?
- Transportation Demand Management (TDM)
 - Effectiveness depends on project site context and tenants
 - Requires monitoring



Involvement.

Level 1

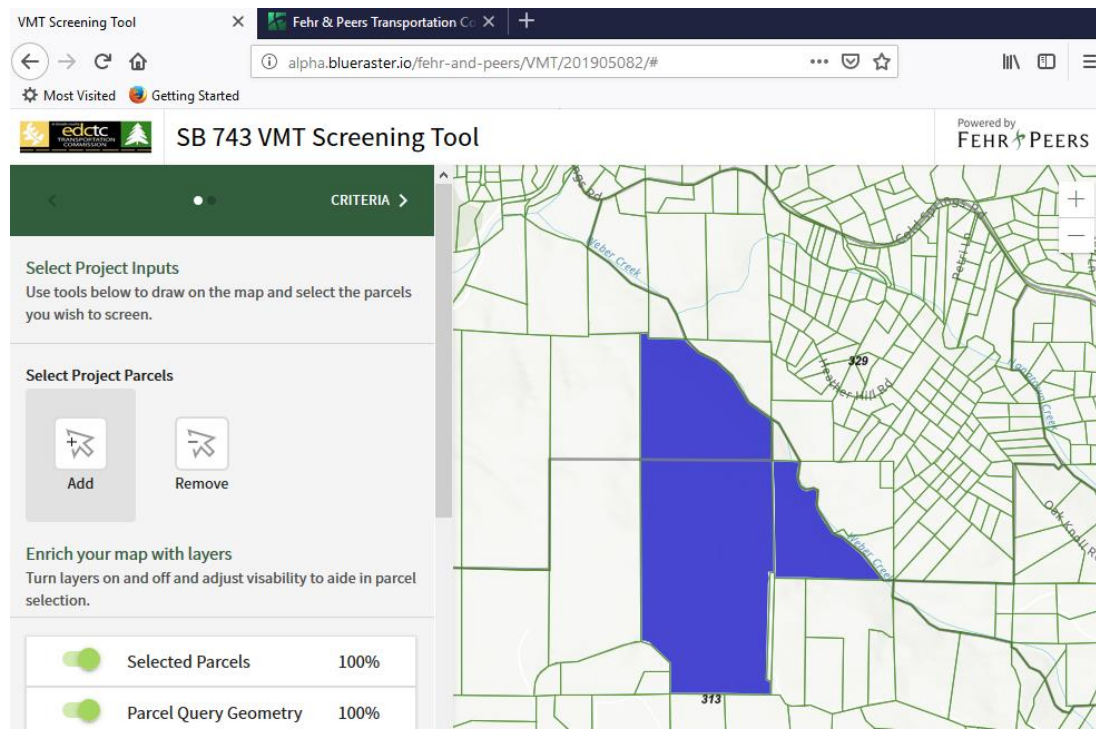
- Curator
 - Provide information.



Involvement.

Level 2

- Screening Tool
 - Provide information (1) and screening tool.



Involvement.

Level 3

- VMT Calculator
 - Provide information (1), screening tool (2), and project generated VMT calculations and reductions.

CITY OF SAN JOSE VEHICLE MILES TRAVELED EVALUATION TOOL [FAQ](#)

Project Information

Project Name: Location:
Project Parcel: Assessor's Parcel Number, Place Type = Urban Low Transit Proposed Parking: Vehicle Bike

Land Use Type

RESIDENTIAL

Single Family DU
Multi Family DU
Percent of All Units
Extremely Low Income (< 30% MFI) % Affordable
Very Low Income (> 30% MFI, < 50% MFI) % Affordable
Low Income (> 50% MFI, < 80% MFI) % Affordable

OFFICE KSF
RETAIL KSF
INDUSTRIAL KSF

VMT Reduction Strategies

Select each section to show individual strategies.

Tier 1 PROJECT CHARACTERISTICS

Tier 2 MULTIMODAL INFRASTRUCTURE

☒ Bike Access Improvements ¹ Distance to Nearest Existing Bicycle Facility (ft)
☒ Pedestrian Network Improvements ¹ Distance to Nearest Bicycle Facility With Project (ft)
☐ Traffic Calming Measures ¹ Are pedestrian improvements provided beyond the development frontage?
Are improvements provided beyond the development frontage?

* Strategy requires coordination with the City of San Jose to Implement

Tier 3 PARKING
Tier 4 TDM PROGRAMS

Analysis Results

RESIDENTIAL ONLY

Existing VMT: 10.71
Tier 1+2+3: 9.94
Tier 1+2+3+4: 9.94
Max Reduction Possible: 0.77
Residential threshold: 10.32
IMPACT? NO

EMPLOYMENT ONLY

Existing VMT: 12.45
Tier 1+2+3: 12.37
Tier 1+2+3+4: 12.37
Max Reduction Possible: 0.08
Office threshold: 12.11
Industrial threshold: 7.46
IMPACT? YES

Involvement.

Level 4

- VMT Evaluator
 - Provide information (1)
 - Screening tool (2)
 - VMT calculations and reductions (3)
 - Analyze project effects on VMT



Questions.

SB743 Procedural Notes: Land Use (1/2)

FEHR PEERS

OPR
Steps

Navigating Land Use Projects Through SB 743

FEHR PEERS

Step 1
Screening

Step 2
Establish
Baseline
VMT Levels

Step 3
Establish
VMT
Threshold

Step 4
Forecasting
Project
VMT Effects

OPR
Steps

Project
Questions

Procedural
Flowchart

① Exclude ② A selected process or procedural outcome

Step 1
Screening

Is the project:
 (1) A federal or state project
 (2) A new VMT zone
 (3) Local zoning or other laws
 (that require a permit)?

If no project:
 (1) No other rules or orders
 (that apply)
 (2) Consistent with parking
 regulations in all local
 areas or parking
 (3) Consistent with SB 743 (2)

Step 2
Establishing
Baseline
VMT Levels

What is the project
 land use?

Step 3
Establishing
VMT
Threshold

What use is the project
 and what is the VMT
 threshold?

Step 4
Forecasting
Project
VMT Effects

What use is the project
 and what is the VMT
 threshold?

Step 5
Identifying
Significant
Impacts

Is the VMT forecast the
 25% or more of the VMT
 threshold from Step 3?

Step 6
Developing
Mitigation
Measures

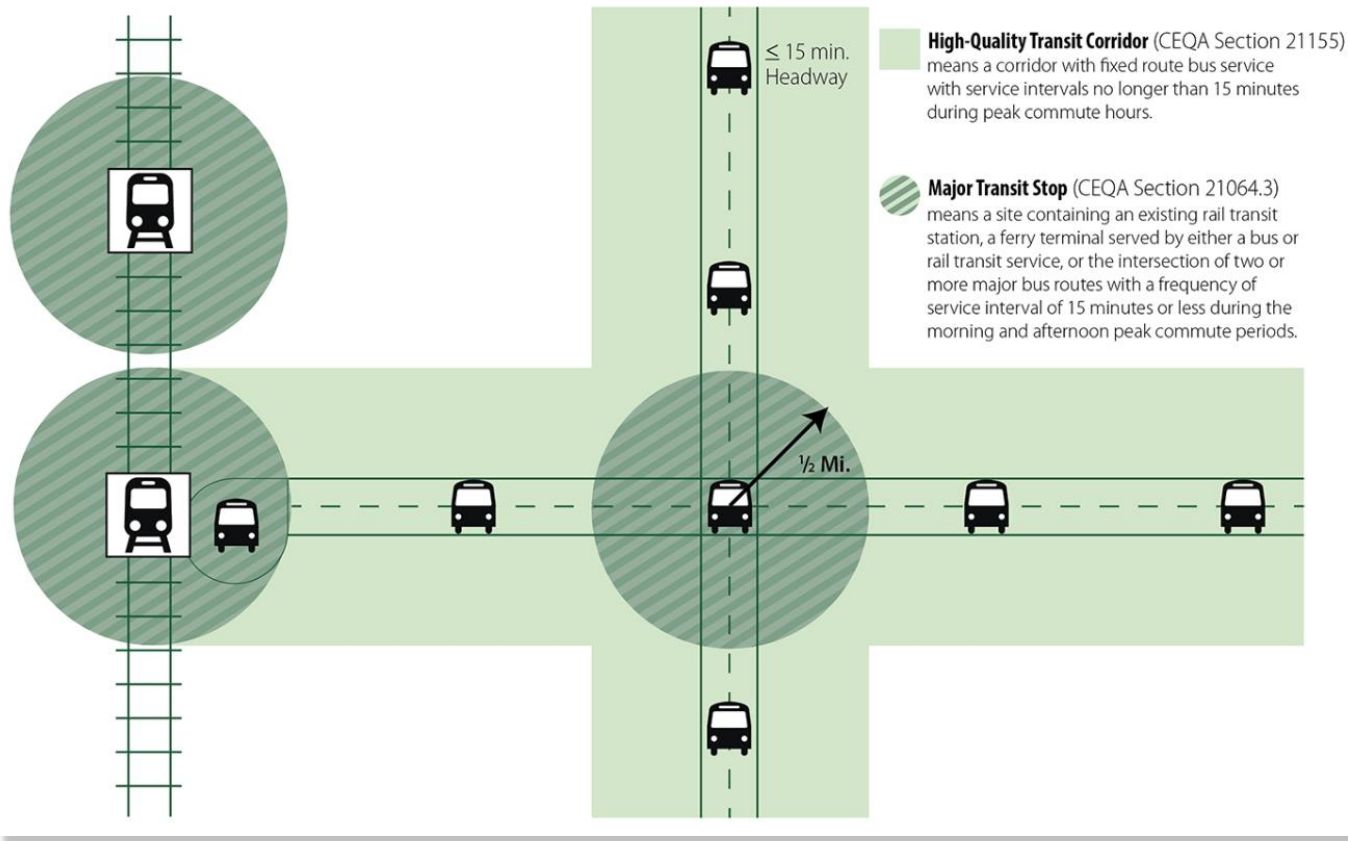
What is the forecasting
 land use or use?

Step 7
Identifying
Impacts of
Mitigation

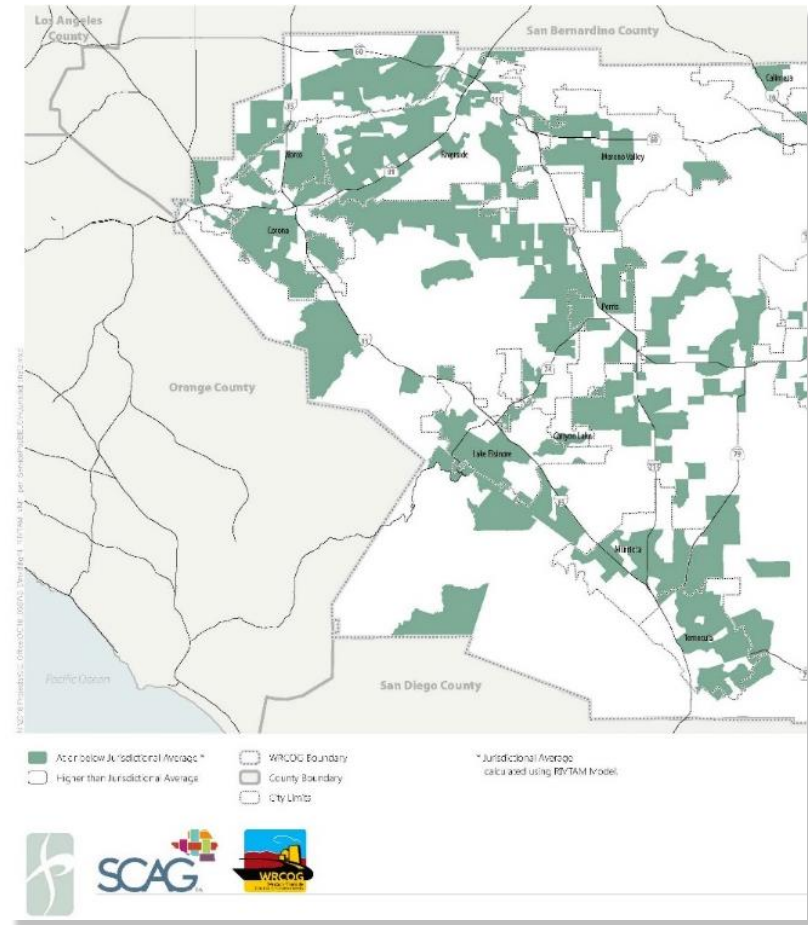
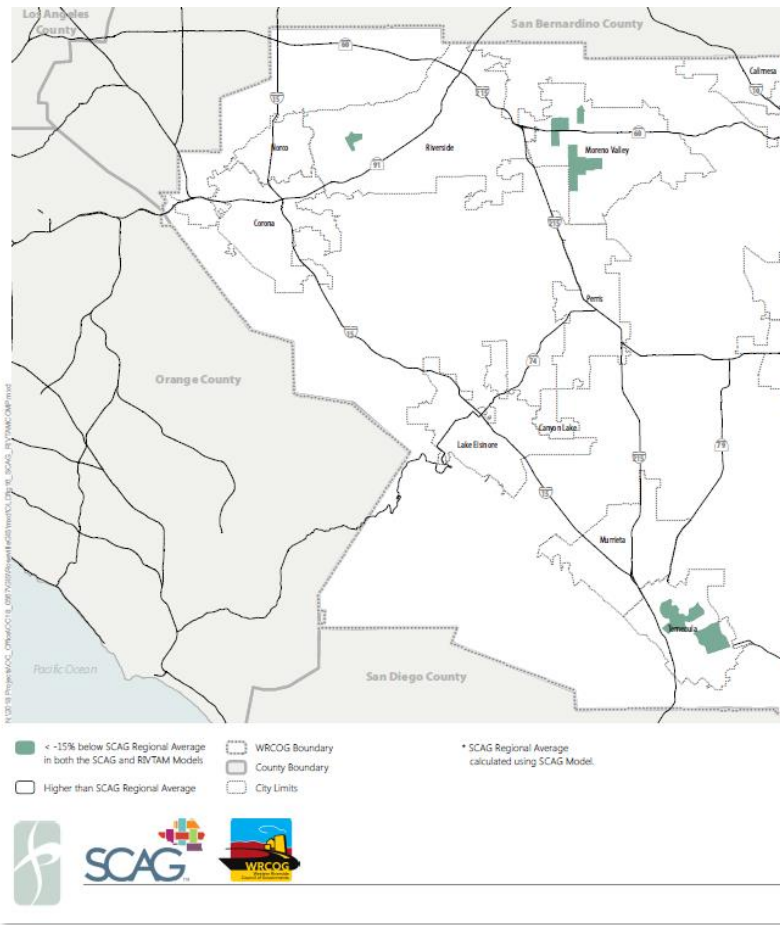
Is the mitigation required
 or is it required by other
 laws or regulations?
 (that require mitigation
 or other)

Methods

TPA SCREENING

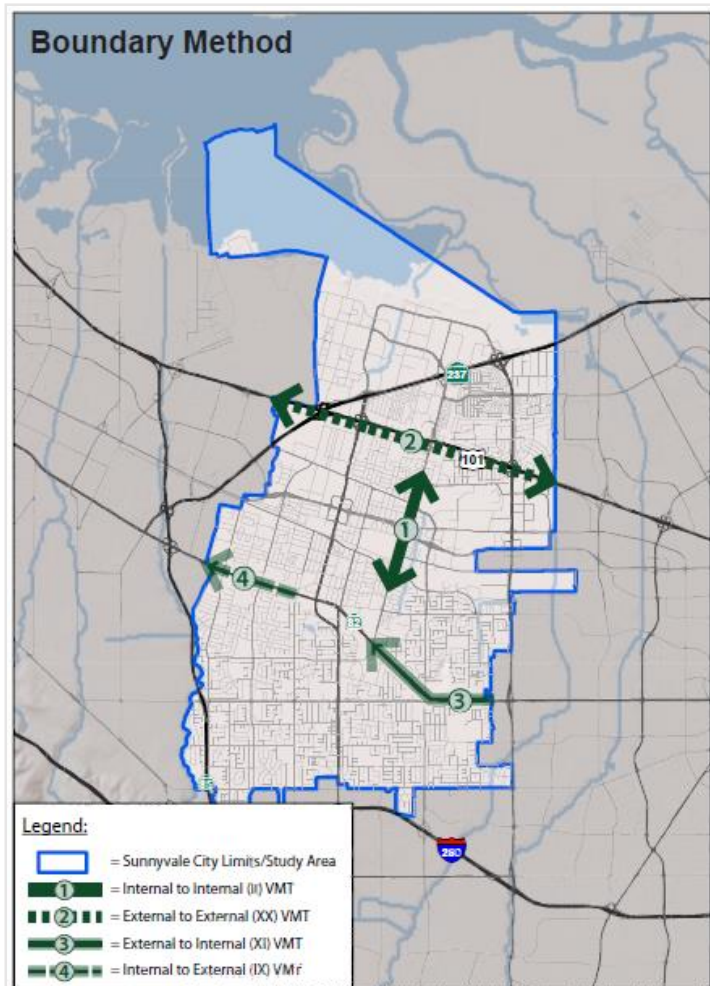


Methods ■ LOW VMT AREA



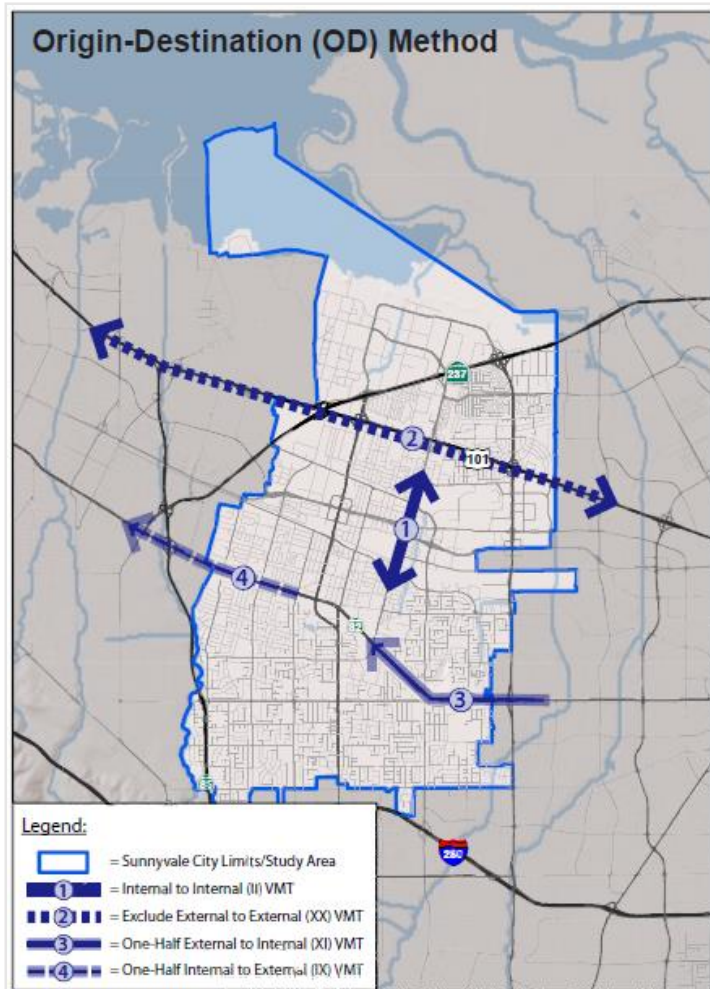
Methods VMT ACCOUNTING

Geographic Boundary VMT Accounting Method



- Boundary VMT = 2,090,010 daily VMT (weekday)
- Through traffic is 44 percent of the VMT boundary method estimate

Methods VMT ACCOUNTING

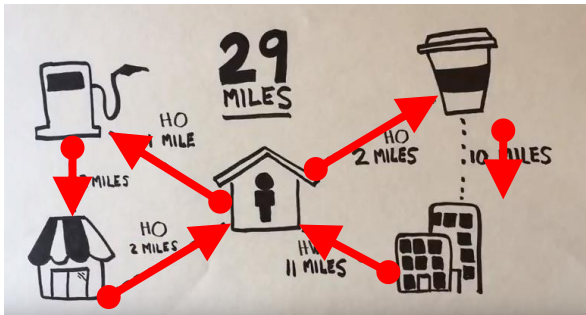


Origin-Destination (OD) Shared Accounting VMT Method

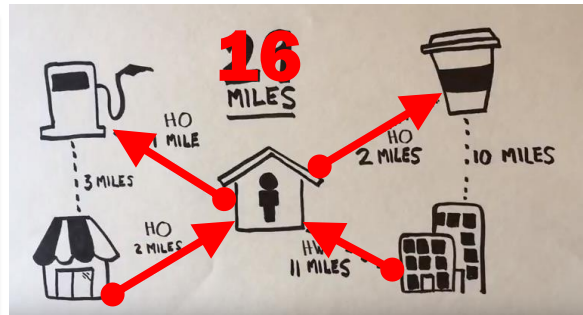
- OD VMT = 2,459,090 daily VMT (weekday)
- Boundary = 2,090,010 daily VMT (weekday)

Methods ■ TOTAL OR PARTIAL

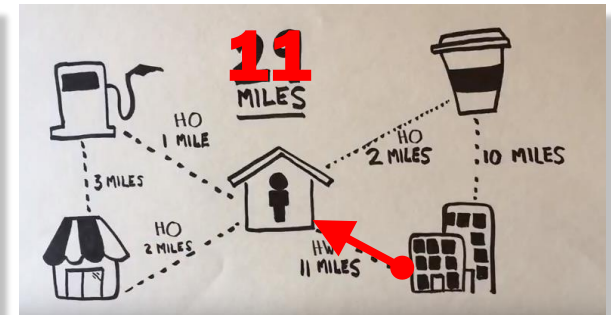
**Household Generated
VMT**






**Home-Based Generated
VMT**



**Home-Based Work
Generated VMT**



Feasible Mitigation

- 
- CAPCOA**
CALIFORNIA
AIR
POLLUTION
CONTROL
OFFICERS
ASSOCIATION
- 
- 
- # Quantifying Greenhouse Gas Mitigation Measures
- A Resource for Local Government
to Assess Emission Reductions from
Greenhouse Gas Mitigation Measures
- August, 2010

[illegible]

New Information Since CAPCOA Was Published in 2010		
New information	Change in VMT reduction compared to CAPCOA(1)	Literature or Evidence Cited
(1) VMT reduction due to mix of land uses within a single development; (2) Reduction in VMT due to regional change in entropy index of diversity	(1) 0%–12% (2) 0.3%–4%	(1) Ewing, R., and Cervero, R. (2010). "Travel and the Built Environment: A Meta-Analysis." <i>Journal of the American Planning Association</i> , 76(3), 265–294. Cited in California Air Pollution Control Officers Association. (2010). "Quantifying Greenhouse Gas Mitigation Measures." Retrieved from: http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-Final.pdf Frank, L., Greenwald, M., Kavage, S., and Devlin, A. (2011). "An Assessment of Urban Form and Pedestrian and Transit Interactions as an Integrated GHG Reduction Strategy." WSDOT Research Report WA-RD 763.1. Washington State Department of Transportation. Retrieved from: http://www.wdot.wa.gov/research/reports/fullreports/763.1.pdf Nasri, A., and Zhang, L. (2012). "Impact of Metropolitan-Level Built Environment on Travel Behavior." <i>Transportation Research Board</i> , <i>Journal of the Transportation Research Board</i> , 2323(3), 75–79. Sadek, A. V. et al. (2011). "Reducing VMT through Smart Land-Use Design." <i>New York State Energy Research and Development Authority</i> . Retrieved from: https://www.dot.ny.gov/divisions/engineering/technical-services/-trans-and-e-repository/C-08-29%20Final%20Report_December%202011%20%282%29.pdf Spear, S. et al. (2014). "Impacts of Land Use Mix on Passenger Vehicle Use and Greenhouse Gas Emissions: Policy Brief and Technical Background Document." <i>California Air Resources Board</i> . Retrieved from: https://arb.ca.gov/cc/iss75/policies/policies.htm Zhang, Wenguo et al. "Short- and Long-Term Effects of Land Use on Reducing Personal Vehicle Miles of Travel."